

APPENDIX I

AMENDED CLAIMS WITH AMENDMENTS INDICATED THEREIN BY BRACKETS AND UNDERLINING

1. (Amended) Transdermal or transmucosal composition for administering at least one morphine [alkaloids] alkaloid, the composition comprising at least one morphine alkaloid each as the acid addition salt thereof with an organic acid, each said morphine alkaloid being of the following Formula I:

where R^1 is selected from the group consisting of H, C_1 - to C_6 -alkyl residues[, preferably methyl, ethyl-, propyl, i-propyl, $C(O)CH_3$]; R^2 is selected from the group consisting of the monad residues H, OH, $OC(O)CH_3$, whereby in this case the fourth valence of the (6)-C atom is occupied by H, or the dyad residues = O, = CH_2 ; R^3 is selected from the group consisting of - CH_3 , cyclopropyl, cyclobutyl and allyl; [and where]

[- the bond at C7/C8 may be saturated, or a nitroxyl group may be present at N_{17} ,]

Serial No. 09/508,907

Icharacterized in that it contains the morphine alkaloid as an acid addition salt of

monoesters of C₃- to C₁₆-dicarboxylic acids with monohydric C₁- to C₄-[-]

C₂- to C₆- and C₈- to C₁₆-sulfonic acids, [-]

alcohols, [especially methanol,]

an] the organic acid [which is] being selected from

- substituted benzoic acids, selected from the group consisting of halogen, [-] hydroxy, alkyl, hydroxyalkyl, alkoxyalkyl, [and/or] alkoxy-substituted benzoic acids, [as well as of the] aminosubstituted benzoic acids, [which may optionally be] aminosubstituted benzoic acids alkylated at the N atom,
- substituted or [non-substituted] unsubstituted 5-ring or 6-ring heterocycles [-] comprising at least one N or S atom and having a carboxyl group function[, especially a carboxy, carboxymethyl, carboxyethyl] or [the - optionally] branched [-] or unbranched carboxypropyl or carboxybutyl groups as substituents,
- saturated or unsaturated, [optionally] substituted or unsubstituted, oxo-[-] carboxylic acids having 5 to 10 C atoms,

- [-] phenyl-substituted or phenoxy-substituted saturated C_2 to C_4 -carboxylic acids,
- [-] aliphatic, aromatic or heterocylic C₂- to C₁₂-amino acids, wherein one amino group is substituted with [an optionally] <u>a</u> substituted <u>or unsubstituted</u> [-] C₂- to C₆-alkanoyl group or [an optionally] <u>a</u> substituted <u>or unsubstituted</u> [-] benzoyl group.

the acid salt having a property of penetrating skin as defined by a flux of at least $2.34 \, \mu \text{g/cm}^2 \cdot \text{h}$.

2. (Amended) Composition according to Claim 1, [characterized in that] wherein the organic acid is selected from aliphatic monoaminomonocarboxylic acids, wherein the amino group is substituted with [a] an unsubstituted C₂- to C₆-alkanoyl group[, which may be mono- or polysubstituted with hydroxy] or with a C₂- to C₆-alkanoyl group which is monosubstituted or polysubstituted with hydroxy, C₁- to C₄-alkoxy- or C₁- to C₄-hydroxyalkyl, or wherein the amino group is substituted with [the] an unsubstituted benzoyl residue[, which may be] or with benzoyl residue which is mono- or polysubstituted with C₁- to C₄-alkyl, C₁- to C₄-alkoxy, C₁- to C₄-hydroxyalkyl, halogen, amino or hydroxy.

- 3. (Amended) Composition according to Claim 2, [characterized in that] wherein the organic acid is selected from aliphatic C_2 to C_6 -monoaminomonocarboxylic acids, wherein the amino group is substituted with [the] an acetyl group or [the] <u>a</u> benzoyl group.
- 4. (Amended) Composition according to Claim 1, [characterized in that] wherein the organic acid is selected from:
- [-] hydroxy- $(C_1$ to C_4)-alkyl, C_1 to C_6 -alkoxy- $(C_1$ to C_4)-alkyl-substituted or p- or m-hydroxy-substituted benzoic acids,
- [-] monoesters of C_5 to C_{10} -dicarboxylic acids, [especially suberic acid, azelaic acid and sebacic acid,]
- [-] C_4 to C_8 -sulfonic acids[, especially hexanesulfonic acid].
- 5. (Amended) Composition according to Claim 1, [characterized in that] wherein the acid is selected from C_1 to C_4 -alkyl-substituted benzoic acids[, preferably C_1 to C_4 -trialkyl-substituted benzoic acids].

- 6. (Amended) Composition according to Claim 1, [characterized in that] wherein the organic acid is hexanesulfonic acid, aminobenzoic acid or trimethylbenzoic acid.
- 7. (Amended) Composition according to Claim 1, [characterized in that] wherein the 5-ring or 6-ring heterocycle is a pyridine-carboxylic acid[, preferably nicotinic acid or lipoic acid].
- 8. (Amended) Composition according to Claim 1, [characterized in that] wherein the oxocarboxylic acid is a saturated or unsaturated 2-, 4-, 5- or 9-oxocarboxylic acid [which is optionally unsaturated].
- 9. (Amended) Composition according to Claim 8, [characterized in that] wherein the oxocarboxylic acid is 5-oxopyrrolidine-2-carboxylic acid, levulic acid or oxodec-2-ene acid.
- 10. (Amended) Composition according to Claim 3, [characterized in that] wherein the organic acid is acetylglycin or hippuric acid.

- 11. (Amended) Composition according to any one of [the preceding] Claims 1 to 10 and 17 to 25, [characterized in that] wherein the morphine alkaloid is morphine, codeine, heroin, ethylmorphine, levorphanol or hydromorphone.
- 12. (Amended) Composition according to Claim 1, [characterized in that it comprises] comprising a solution or suspension of the acid addition salt in glycerin, ethylene [glykol] glycol, dimethyl isosorbide, oleic acid and/or dimethyl sulfoxide.
- 13. (Amended) Acid addition salts of morphine alkaloid and organic acid, said morphine alkaloid having the following Formula I:

where R^1 is selected from the group consisting of H, C_1 - to C_6 -alkyl residues[, preferably methyl, ethyl-, propyl, i-propyl, $C(O)CH_3$]; R^2 is selected from the group consisting of the monad residues H, OH, $OC(O)CH_3$, whereby in this case the fourth valence of the (6)-C atom is occupied by H, or the dyad residues = O,

Serial No. 09/508,907

=CH₂; R³ is selected from the group consisting of -CH₃, cyclopropyl, cyclobutyl and allyl; [and where]

[- the bond at C7/C8 may be saturated, or a nitroxyl group may be present at N_{17} ,]

[characterized in that] the organic acid [is] being selected from

- [-] monoesters of C_3 to C_{16} -dicarboxylic acids with monohydric C_1 to C_4 alcohols, [especially methanol,]
- [-] C_2 to C_6 and C_8 to C_{16} -sulfonic acids,
- [- the group of] halogen, p- and m-hydroxy, alkyl, hydroxyalkyl, alkoxyalkyl and/or alkoxy-substituted benzoic acids, [as well as of the] aminosubstituted benzoic acids, [which may optionally be] aminosubstituted benzoic acids alkylated at the N atom,
- [-] substituted or [non-substituted] <u>unsubstituted</u> 5-ring or 6-ring heterocycles comprising at least one N or S atom and having a carboxyl group function[, especially a carboxy, carboxymethyl, carboxyethyl] or [the optionally]

Serial No. 09/508,907

F-6826

branched [-] <u>or unbranched</u> carboxypropyl or carboxybutyl groups as substituents,

- [-] saturated or unsaturated, [optionally] substituted or unsubstituted, oxocarboxylic acids having 5 to 10 C atoms,
- [-] phenoxy-substituted saturated C₂- to C₄-carboxylic acids,
- [-] aliphatic, aromatic or heterocylic C_2 to C_{12} -amino acids, wherein one amino group is substituted with [an optionally] <u>a</u> substituted <u>or unsubstituted</u> C_2 to C_6 -alkanoyl group or [an optionally] <u>a</u> substituted [-] <u>or unsubstituted</u> benzoyl group.

the acid salt having a property of penetrating skin as defined by a flux of at least $2.34 \,\mu\text{g/cm}^2 \cdot h$.

16. (Amended) [Composition according to Claim 1, characterized in that said preparation is a] A lotion, ointment, creme, gel, [or] spray, [an] iontophoretic device, [a] transmucosal therapeutic system or [a] transdermal therapeutic system [(TTS)], [comprising] the transdermal therapeutic system including a backing

layer[,] which [optionally] is [active substance-] <u>permeable or impermeable with respect to the active substance</u>, and a reservoir layer, <u>comprising a composition according to Claim 1</u>.